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APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO	
09/912,684	07/25/2001	Serhan Dagtas	US010307	7144	
24737	7590 02/24/2005		EXAMINER		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			PROCTOR, JASON SCOTT		
P.O. BOX 300 BRIARCLIFF	01 MANOR, NY 10510	ART UNIT	PAPER NUMBER		
			2123		
		•	DATE MAILED: 02/24/200	5	

Please find below and/or attached an Office communication concerning this application or proceeding.

· · · · · · · · · · · · · · · · · · ·		Application	cation No. Applicant(s)					
Office Action Summary		09/912,684	ı	DAGTAS ET AL.				
		Examiner		Art Unit				
		Jason Prod	otor	2123				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).								
Status								
1)	Responsive to communication(s) filed on							
′=	•	2b)⊠ This action is non-final.						
3)□	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.							
Disposition of Claims								
4) Claim(s) 1-22 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) is/are allowed. 6) Claim(s) 1-22 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.								
Applicati	on Papers							
 9) ☐ The specification is objected to by the Examiner. 10) ☐ The drawing(s) filed on 25 July 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. 								
Priority (under 35 U.S.C. § 119							
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 								
2) Notice 3) Notice Information	t(s) te of References Cited (PTO-892) te of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(9) (PTO-1449 or PTO/SB/08 tr No(s)/Mail Date 10/25/02	٠,	4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal Pa 6) Other:	te)-152)			



DETAILED ACTION

Claims 1-22 have been presented for examination

Claims 1-22 have been rejected.

Specification

1. The abstract of the disclosure is objected to because it repeats the title of the invention. Correction is required. See MPEP § 608.01(b).

Technology Background

In order to better facilitate discussion of Applicant's disclosed invention, the Examiner provides the following as relevant to the topic of expert systems.

A computer program that evaluates a system of rules is known as an *expert* system. Three examples of expert systems are provided by Time-Life Artificial Intelligence (1986), beginning at page 40 as follows:

"With considerable help and encouragement from Feigenbaum and his colleague Bruce Buchanan, another Stanford research scientist, Shortliffe devised an expert system dubbed MYCIN. Armed with some 500 if-then rules for diagnosing meningitis and blood infections and recommending antibiotic therapies".

The second example is found at page 41:

"CADUCEUS-which was named for the traditional winged-staff-and-serpent symbol of physicians-began in the early 1970s. Its goal is to encompass the essential diagnostic knowledge of some 700 diseases. With Jack Meyers serving as an important source of the system's expertise, it is perhaps unsurprising that CADUCEUS acquired the nickname Jack-in-the-Box.... Systems such as CADUCEUS are severely limited by the size of their knowledge bases."

The third example is found at page 41:

"Aldo Cimino ... expert in maintaining the complex sterilizers, or "cookers," used for killing bacteria in canned soup ... spent about seven months with Michael Smith, a so called knowledge engineer-a computer scientist who tries to reduce complex subjects to the if-then format that can

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be processed by an expert system.... came up with a program with more than 150 rules of thumb to aid the operators of Cambell's sterilizers".

Note that selecting a camera view in order to track moving objects appears substantially more complex than making a can of soup.

For the record, note two useful cases regarding enablement. White Consolidated Industries, Inc. v. Vega Servo-Control Inc. (CAFC) 218 USPQ 961, 963 (7/25/83) addresses software enablement and states "The amount of required experimentation, however, must be reasonable" and "in this case that development of a single pass language translator would require from 1-1/2 to 2 man-years of effort, a clearly unreasonable requirement".

Also note that *In re Wands* (CA FC) 8 USPQ2d 1400, 1404 (9/30/1998) provides an 8 factor test for determining undue experimentation: "Factors to be considered in determining whether a disclosure would require undue experimentation...includes (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-22 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

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was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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3. At page 14, line 29 – page 15, line 12 of the specification, Applicant teaches a system of "editing rules" including five rules. Based on the background of expert systems above, it is understood that many more than five rules are required to build and use the invention, specifically to build and use the step of selecting camera views. A reasonable assessment of the amount of effort necessary to experimentally develop the rules for the present invention is understood to be at least one man-year. The claims that rely upon selecting camera views by some reference to an expert system (selecting an appropriate camera view, selecting a camera view based on one or more user preferences, et cetera) are therefore not enabled by the disclosure.

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 4. Claims 1-21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- 5. In general, the claims are replete with deficiencies under 35 U.S.C. § 112, second paragraph, owing primarily to vague and indefinite independent claims and dependent claims that fail to rectify these deficiencies. The Examiner has given

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exemplary rejections below and respectfully requests that Applicant carefully review the claim language for compliance with 35 U.S.C. § 112, second paragraph.

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- 6. Regarding claim 1, the preamble recites "tracking objects in a program" which renders the claim vague and indefinite. None of the claim limitations refers to this phrase. This phrase is open to widely varying interpretations because the term "program" is not qualified. It is noted that "object-oriented programming" is a model of producing computer programs, the development of which often requires monitoring, or tracking the objects in the program. It would not be unreasonable to refer to tools that track such objects in an object-oriented program as "cameras" because they would function as a metaphor for a camera. The Examiner respectfully suggests qualifying the term "program" as "television program" or "sports program" or with some other clarification.
- 7. Further regarding claim 1, the limitation "entering one or more user preferences" renders the claim vague and indefinite. Claim 1 is a method claim that recites no tangible structure. There is no indication how or into what the user preferences are entered.
- 8. Further regarding claim 1, the limitation "displaying the one or more selected camera views" renders the claim vague and indefinite. It is unknown what is meant by "displaying" in the absence of a recitation of a tangible display apparatus. The phrase "camera views" is vague in that it could refer to an indication of which among several cameras is selected, an image of the selected camera, or the image being captured by

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the camera. It is noted that the term "camera" in claim 1 is not restricted to a television

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or motion picture camera, but rather a much broader definition.

9. Regarding claim 2, the step of "tracking at least one of a plurality of objects"

renders the claim vague and indefinite. While the specification teaches that a computer

system tracks objects, the objects being visible to any number of cameras, claim 2

broadly recites the step of tracking without specifying who or what performs the

tracking. Neither claim 2 nor claim 1, from which it depends, recites any tangible

structure such as a computer to perform the tracking. Similarly, the step of "creating a

scene reconstruction comprising a representation of at least one object and a

representation of the playing area" renders the claim vague and indefinite.

10. Further regarding claim 2, the phrase "scene reconstruction" renders the claim

vague and indefinite. While it is appreciated that a scene reconstruction comprises a

representation of the at least one object and a representation of the playing area,

overall the term is so abstract that it is unclear whether this is a tangible model, a

computer generated image, a hand drawn image, an animation to be displayed with the

camera view, or some other embodiment of "representations" of objects and playing

areas.

Where claims 2-16 recite limitations related to entering preferences or displaying,

they are similarly rejected for being vague and indefinite. Where claims 3-16 recite

limitations related to scene reconstructions, receiving input, or producing output, they

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are similarly rejected for being vague and indefinite. The Examiner respectfully suggests that claims 1-16 recite the necessary tangible structure that enables the method to be performed rather than a disembodied method. The Examiner is not aware of support in the disclosure for a method that can be claimed in compliance with 35 U.S.C. § 112, second paragraph, without tangible structure.

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- 11. Regarding claim 3, the phrase "analysts scene reconstruction" renders the claim vague and indefinite. While the "scene reconstruction" of claim 2 is described as "a representation of the at least one object and a representation of a playing area", the phrase "analysts scene reconstruction" is defined only in terms of itself. It is therefore unclear what is meant by "analysts scene reconstruction". Like the "scene reconstruction" of claim 2, it is unknown how the "analysts scene reconstruction" is embodied, whether it is tangible, computer generated, hand drawn, an animation, or some other embodiment.
- 12. Regarding claim 11, the limitations "transmitting the tracking information for the at least one object, and receiving the tracking information for the at least one object" renders the claim vague and indefinite. It is unknown what is transmitting and what is receiving. As written, the claim appears to recite method steps where the transmitter and receiver are the same entity, resulting in fruitless transmission of tracking information.

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- 13. Claim 17 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitations begin by reciting a computer apparatus, but conclude with selecting and displaying camera views. The structural relationship between the computer and the camera views is not defined. It appears that the camera views are internal to the computer system, perhaps stored as data in the computer memory. The Examiner respectfully suggests reciting the complete structure of the system, making clear how the processor enters user preferences, how the camera views are related to the processor, and how the processor displays a camera view.
- 14. Claim 18 is rejected for the same reasons given for claim 17 above.
- 15. Claim 19 is rejected for the same reasons given for claim 17 above, and additionally rejected for undue breadth for broadly reciting a system with means for several functions. It is unclear whether the system is a tangible apparatus. It is unclear what is meant by "entering one or more user preferences" in a system that lacks any tangible structure to receive the user preferences. It is unclear what is meant by "displaying the one or more selected camera views" in a system that lacks tangible structure to display. It appears that the claim is broad enough to cover a system comprising two televisions screens and a human, wherein the television screens display

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different camera views and the human, based on her preferences, turns her head to

view one television screen or the other.

16. Claim 20 is rejected for the similar reasons given for claim 1 above. Claim 20

recites a method where the only tangible structure is "a receiver", however the method

does not define how or into what the user preferences are entered. It is unknown what

is meant by "displaying" in the absence of a recitation of a tangible display apparatus.

17. The Examiner notes that claim 22 appears to claim the broadest invention

supported by the disclosure and substantially the same invention as independent claims

1, 17, 18, 19, and 20. However, claim 22 does not suffer from the deficiencies under 35

USC § 112, second paragraph, shared by the other independent claims. The Examiner

respectfully suggests that Applicant carefully review the patent protection sought for the

disclosed invention, preferably utilizing the language of claim 22 and, as desired, in

combination with the limitations of dependent claims 2-16.

Claims rejected but not specifically mentioned stand rejected by virtue of their

dependence.

Claim Rejections - 35 USC § 101

18. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the

conditions and requirements of this title.

Claims 1-16, and 18-21 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

19. MPEP 2105 reads as follows:

If the broadest reasonable interpretation of the claimed invention as a whole encompasses a human being, then a rejection under 35 U.S.C. 101 must be made indicating that the claimed invention is directed to nonstatutory subject matter. Furthermore, the claimed invention must be examined with regard to all issues pertinent to patentability, and any applicable rejections under 35 U.S.C. 102, 103, or 112 must also be made.

Claim 1 recites a method without any tangible structure and is apparently performed by a human being. It is clear that the step of "entering one or more user preferences" is performed by a human being. In the context established by the preamble and first step of the claim, it appears that the step of "selecting one or more camera views" and "displaying the one or more camera views" are performed by a human, although not literally. For example, a human who presses a button that initiates a display of a camera view is said to "display the camera view". Claims 2-16 are replete with deficiencies under 35 U.S.C. § 112, second paragraph, making it impossible for the Examiner to properly determine if some of these claims include limitations that cannot be performed by a human being.

20. Claim 19 broadly recites a system with means for various functions. A human being has a skeletal system and cognitive functions such that, when presented with two camera views, the cognitive functions define the human's user preferences and the skeletal system enables the human to selectively view one camera view or the other. Claim 19 is nonstatutory for encompassing a human being.

21. Claims 20-21 similarly recite a method without sufficient tangible structure to limit the scope such that a human being cannot perform the method.

MPEP 2106 reads as follows:

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

22. Claim 18 recites a computer-readable medium having computer-readable code means embodied thereon, and is therefore a computer program listing stored on a computer-readable medium. Additionally, the claim does not recite any structural relationship between the computer-readable medium and a computer system. As a result, the claim must be interpreted as nonstatutory functional descriptive material. Compare to claim 17, which recites a processor operatively coupled to a computer-readable medium and the processor implements computer-readable code.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. § 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

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Claim Interpretation

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23. In the interest of compact prosecution, examiner makes the following claim interpretations in order to apply prior art to the claims. See *Ex parte lonescu*, 222 USPQ 537 (Bd. Pat. App. & Inter. 1984).

- 24. Independent claims 1, 17, 18, 19, and 20 are interpreted as substantially identical to independent claim 22. While claims 1 and 20 are methods, claim 22 recites a system that includes the functionality of the methods in claims 1 and 20. Additionally, the Examiner is not aware of support in the disclosure for a method that can be claimed in compliance with 35 U.S.C. § 112, second paragraph, without tangible structure.
- 25. Dependent claims 2-16 have been interpreted as though they were claimed with the requisite tangible structure. The specifics of the Examiner's interpretations will be apparent from the claim rejections under 35 U.S.C. §§ 102 and 103 below.
- 26. In order to facilitate a search of the prior art and applying prior art to the claims, the Examiner interprets the claimed invention as defined along the lines of independent claim 22, and dependent method claims 2-16 as system claims depending from claim 22.

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Claim Rejections - 35 USC § 102

27. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 28. Claims 1-2, 4-14, and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Jain et al. US Patent No. 5,729,471, hereafter referred to as Jain.
- 29. Regarding claims 1, 17, 18, 19, 20, and 22, Jain teaches a system for selecting an appropriate camera view on a receiver (column 8, lines 15-23), the system comprising well known computer architecture (column 16, lines 45-62), which receives user preferences, multiple video images, selects one video image based on the preferences, and displays the video image (column 8, lines 15-57; column 10, lines 11-14). This functionality is exemplified in the context of a television broadcast of an American football game (column 12, line 65 column 13, line 9).
- 30. Regarding claim 2, Jain teaches tracking a plurality of objects (column 9, lines 5-24; column 9, lines 43-56) and creating a scene reconstruction comprising a representation of the at least one object and a representation of a playing area, referred to as an *environment model* (column 15, line 65 column 16, line 8; column 17, lines 17-26; column 31, lines 26-48).
- 31. Regarding claims 4, 5, and 21, Jain teaches selecting the camera views based on one or more editing rules (column 21, lines 15-30; column 16, lines 17-25 as *context* sensitive view selection). Inherent in using editing rules to select different camera rules

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at different times is the use of editing transitions between the camera views. Without editing transitions, switching from one camera view to another camera view would be impossible.

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- 32. Regarding claim 6, Jain teaches the step of voting in order to select one of the multiple camera views, referred to as *automatic camera selection*, which looks into information on player position and camera status in the environment model to determine which camera provides the best shot of the player when a player appears on more than one camera. (column 21, lines 15-30).
- 33. Regarding claim 7, Jain teaches selecting a camera view based on a preference other than the highest preference (column 9, lines 5-24; column 9, line 66 column 10, line 10). Specifically, Jain teaches that the highest user preference is to view a particular event, however the system automatically selects a camera based on the model's determination of which camera best shows the event.
- 34. Regarding claim 8, Jain teaches the system works with television (column 10, lines 11-14). It is considered inherent that television involves transmission and receiving data gathered from television cameras.
- 35. Regarding claim 9, Jain teaches a user preference to show a region of a field, referred to as a *spatial perspective* (column 9, lines 5-42).
- 36. Regarding claims 10 and 11, Jain teaches a user preference to track an object and selecting a camera that shows the object (column 9, lines 25-55; column 16, lines 17-25). Tracked objects are identified and incorporated into the environment model (column 8, lines 24-49; column 14, lines 18-37; column 17, lines 17-26).

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37. Regarding claim 12, Jain teaches determining statistical information, a preference to view the statistics, and displaying the statistic (column 14, lines 18-37). The player who has possession of the football is regarded as a statistic in accordance with Applicant's use of the term "statistic" at page 12, lines 25-29 of the instant

- application.
- 38. Regarding claim 13, Jain teaches a user preference for one camera view, referred to as a *specific perspective* (column 16, lines 10-17).
- 39. Regarding claim 14, Jain teaches a user preference to track an object and selecting a camera that shows the object (column 9, lines 25-55; column 16, lines 17-
- 25). Tracked objects are identified and incorporated into the environment model (column 8, lines 24-49; column 14, lines 18-37; column 17, lines 17-26).

Claim Rejections - 35 USC § 103

- 40. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 41. Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jain as applied to claim 2 above, and further in view of Pointmaker PVI-64, hereafter referred to as Pointmaker.
- 42. Regarding claim 3, Jain does not teach an analyst's scene reconstruction and overlaying the analysts scene reconstruction on the scene reconstruction.

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43. Pointmaker teaches a scene reconstruction comprising a representation of an area (map of the United States) and an object to be tracked (area of low barometric pressure). Pointmaker also teaches overlaying this scene reconstruction with an analysts input, specifically the circle and arrow drawn on the scene reconstruction by an

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analyst using a digitizing tablet and a light pen, shown below the map.

44. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to use the product Pointmaker PVI-64, specifically designed for broadcasting, and especially with the teaching that "once, only football analysts drew on video", in combination with the invention of Jain in order to provide the viewer with an expert analysis of the program they are watching. Such a combination could be achieved by using the Pointmaker PVI-64 product by an expert analyst while broadcasting a program using the invention disclosed by Jain.

- 45. Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jain as applied to claim 14 above, and further in view of Honey et al, US Patent No. 5,564,698 hereafter referred to as Honey.
- 46. Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jain as applied to claim 1 above, and further in view of Honey.
- 47. Regarding claims 15 and 16, Jain teaches that players may be tracked using passive methods, such as fluorescent coloring on helmets, or by using simple active devices (column 22, lines 38-55). Although Jain does not explicitly teach the use of radio frequency tags, it would have been obvious to a person of ordinary skill in the art

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at the time of Applicant's invention to use radio frequency tags to achieve the same result intended by Jain. Additionally, the benefits of radio frequency tags are well known. To wit, Honey teaches a hockey puck with an electromagnetic transmitter (abstract; Figs. 1 and 8). The combination could have been achieved by taking the techniques known in the art for tracking objects in sports using radio frequency tags, as taught by Honey, in combination with the invention disclosed by Jain.

Conclusion

Art considered pertinent by the examiner but not applied has been cited on form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J Teska can be reached on (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jason Proctor Examiner Art Unit 2123

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